

California Energy Commission

STAFF REPORT

LOCALIZED HEALTH IMPACTS REPORT

For Selected Projects Awarded Funding Through the
Alternative and Renewable Fuel and Vehicle Technology
Program Under Solicitation GFO-16-601 – Zero-Emission
Vehicle Readiness

California Energy Commission

Edmund G. Brown Jr., Governor

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ABSTRACT

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This statute, amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the California Energy Commission to “develop and deploy innovative technologies that transform California’s fuel and vehicle types to help attain the state’s climate change policies.” Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the ARFVTP through January 1, 2024.

AB 118 also directs the California Air Resources Board (ARB) to develop guidelines to ensure air quality improvements. The ARB Air Quality Improvement Program (AQIP) Guidelines, approved in 2008, are published in the *California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1, AB 118 Air Quality Guidelines for the Alternative and Renewable Fuel and Vehicle Technology Program and the AQIP*. The AQIP Guidelines require the Energy Commission, as the funding agency, to analyze the localized health impacts of ARFVTP-funded projects that require a permit (13 CCR § 2343). As provided by 13 CCR § 2343, this Localized Health Impacts Report is required to be available for public comment for 30 days prior to the approval of projects.

This Localized Health Impacts Report analyzes the combined impacts in the communities, including exposure to air contaminants or localized air contaminants, or both, and including, but not limited to, communities of minority populations or low-income populations, as declared by the project proposers or as determined by Energy Commission staff. Appendix A, Localized Health Impact Report Assessment Method, describes the analysis used for this Localized Health Impacts Report.

Keywords: Air pollution, air quality, Air Quality Improvement Program (AQIP), California Air Resources Board (ARB), alternative fuel, Assembly Bill (AB) 118, California Environmental Quality Act (CEQA), criteria emissions, demographics, direct current (DC), environmental justice (EJ) indicators, Environmental Justice Screening Method (EJSM), electric vehicle (EV), greenhouse gas emissions (GHG), localized health impact (LHI), zero-emission vehicle (ZEV)

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EXECUTIVE SUMMARY

Under the *California Code of Regulations Title 13, (CCR § 2343)*, this Localized Health Impacts Report describes the alternative fuel projects proposed for Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) funding that may or may not require a conditional or discretionary permit or environmental review, such as conditional use permits, air quality permits, wastewater permits, hazardous waste disposal permits, and other land-use entitlements. This report does not include projects that require only residential building permits, mechanical/electrical permits, or fire/workplace safety permits, as these are determined to have no likely impact on the environment.

The California Energy Commission is required to assess the localized health impacts of the projects proposed for ARFVTP funding. This Localized Health Impacts Report focuses on the potential impacts projects may or may not have on a particular community, particularly those communities that are considered especially vulnerable to emissions increases. For high-risk communities, this report assesses the impacts from criteria emissions/air toxics and the air quality attainment status.

Environmental justice communities, low-income communities, and minority communities are considered to be the most impacted by any project that could result in increased criteria and toxic air pollutants within an area because these communities typically have the most significant exposure to the emissions. Assessing projects and the communities surrounding them is important because of the health risks associated with these pollutants. Preventing health issues from air pollution in any community is important, but it is especially important to minimize any negative impacts in communities that are already considered to be at risk due to their continued exposure to these contaminants.

The projects in this Localized Health Impacts Report are assessed for potential health impacts for the communities in which they will be located. Based on this analysis, it is not anticipated that implementing these readiness plans will have negative impacts because there will not be a net increase in criteria and toxic emissions, specifically in those communities that are considered most vulnerable. Potentially, the readiness plans stand to provide improved quality of life through zero-emission vehicle acceptance and use.

CHAPTER 1:

Projects Proposed for Funding

On October 17, 2016, the California Energy Commission released a competitive grant funding opportunity titled “Zero-Emission Vehicle (ZEV) Readiness” (GFO-16-601) under the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This grant opportunity was an offer to fund projects that support new and existing planning efforts for ZEVs (battery-electric vehicles, hydrogen fuel cell electric vehicles, and plug-in hybrid electric vehicles).

On January 12, 2017, the Energy Commission posted the notice of proposed awards (NOPA) for GFO-16-601, resulting in six projects proposed for funding. This Localized Health Impacts Report assesses and reports on the potential localized health impacts of the proposed projects with public review and comment for a 30-day period.

This chapter summarizes the projects proposed for Energy Commission funding. Table 1 provides the applicant, project name, project address, and environmental justice (EJ) indicators. (See Appendix A.)

Table 1: Proposed Projects for Zero-Emission Vehicle Readiness With Environmental Justice Indicators

Applicant	Project Name	Project Address	EJ Indicator(s)
Redwood Coast Energy Authority	North Coast ZEV Readiness Plan Implementation Phase 2	633 3 rd Street Eureka, CA 95501	Poverty
San Luis Obispo County Air Pollution Control District	Central Coast Go-Zero: Zero-Emission Vehicle Readiness Implementation in the Tri-Counties	3433 Roberto Court San Luis Obispo, CA 93401	Poverty
Monterey Bay Unified Air Pollution Control District	Monterey Bay EV Acceleration Project	24580 Silver Cloud Court Monterey, CA 93940	Age and Unemployment
Tahoe Regional Planning Agency	Tahoe-Truckee PEV Readiness Plan Implementation	128 Market Street Stateline, Nevada 89449 (Project location: The Tahoe-Truckee region)	Poverty and Minority
Sonoma County Regional Climate Protection Authority	Sonoma County Drive EverGreen: Regional Readiness Plan Implementation	490 Mendocino Avenue Suite 206 Santa Rosa, CA 95401	None
San Diego Association of Governments	Plug-In SD: San Diego Regional PEV Readiness Plan Implementation	401 B Street Suite 800 San Diego, CA 92101	Poverty

Source: California Energy Commission staff

North Coast ZEV Readiness Plan Implementation Phase 2

This project proposes to build upon the outreach and assistance activities called for in the North Coast Plug-In Electric Vehicle Readiness Plan. To promote accelerated ZEV adoption in the region, outreach and assistance activities that were enabled through previous readiness planning efforts will be continued and augmented. These project activities will target disadvantaged communities in the region. Through the incorporation of lessons learned from previous outreach campaigns, and the addition of improved liaison and assistance services, Redwood Coast will continue to promote the adoption of ZEVs in the region.

Central Coast Go-Zero: Zero Emission Vehicle Readiness Implementation in the Tri-Counties

The project proposes to implement recommendations from the Central Coast Region's Electric Vehicle Readiness Plan and the Alternative Fuel Vehicle Readiness Plan that will enable increased ZEV travel in the region and accelerate the regional adoption of ZEVs among consumers and fleet operators. Activities for the project will include (1) creation of a ZEV ombudsman position, (2) analysis of strategic electric vehicle equipment (EVSE) siting opportunities using mobile device data, (3) acceleration of medium- and heavy-duty ZEV adoption by regional fleet operators, (4) coordination of site assessments for electric vehicle (EV) charging stations in collaboration with utility EVSE programs and contractors, (5) promotion of increased ZEV awareness through test-drive events, demonstrations, workshops, and green car shows, (6) detailed site evaluations for hydrogen refueling stations, and (7) ZEV safety training for first responders.

Monterey Bay EV Acceleration Project

The project proposes to implement the region's ZEV readiness plan. Activities will relate to EVs and will target disadvantaged communities within the region. The project will also include plug-in electric vehicle (PEV) awareness, EVSE siting, EVSE-related building codes, and accelerated deployment of light-duty, medium-duty, and heavy-duty vehicles in fleets, with a focus on electric trucks and electric buses.

Tahoe-Truckee PEV Readiness Plan Implementation

The project proposes to implement the Tahoe-Truckee Regional PEV Readiness Plan. The goal of the project is to accelerate the adoption of PEV and ZEV infrastructure. Objectives for the project include the creation of an ombudsman position, education and outreach, siting analysis, and streamlining the permitting process.

Sonoma County Drive EverGreen: Regional Readiness Plan Implementation

The project proposes to provide resources and support to consumers, local government staff, and employees that will accelerate EV adoption in Sonoma County. The project will build upon existing partnerships in Sonoma County, and will advance PEV adoption within the 10 local jurisdictions. Implementation will enable several critical next steps, including support to

prospective drivers, local jurisdiction staff, and local employees, and detailed assessments of the best locations for charging infrastructure. Specifically, the Sonoma County Regional Climate Protection Authority Drive EverGreen implementation proposal seeks to (1) create a PEV online, 24/7, one-stop-shop information website for the region, (2) conduct ZEV awareness and implementation efforts targeting local governments and businesses, (3) provide coordination and technical assistance to local permitting staff, and (4) develop a detailed electric vehicle charging station siting database.

Plug-In SD: San Diego Regional PEV Readiness Plan Implementation

The project proposes to continue the Plug-in SD program to increase the deployment of PEVs and to implement the recommendations and strategies of the San Diego Regional PEV Readiness Plan, San Diego Regional Alternative Fuel Readiness Plan, and key actions from San Diego Forward: The Regional Plan. Activities of the proposed project would include expanded technical assistance, regional electric vehicle charging station planning and analysis, and PEV awareness outreach and education. These actions will help address continuing barriers to deploying PEVs and infrastructure as well as support the region in contributing to the state's goals of increasing the share of zero-emission vehicles on the road.

CHAPTER 2:

Approach

The Localized Health Impact Report (LHI Report) Assessment Method in Appendix A assesses communities potentially impacted by air pollution and possibly benefitted by the proposed readiness plans. The California Air Resources Board's (ARB) *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution for Assembly Bill (AB) 32 Assessments* is also used to integrate data to identify low-income communities that are highly impacted by air pollution.¹ Other resources used in this assessment are the *California Infrastructure State Implementation Plans*,² which contain publicly noticed air quality attainment plans, and the *Green Book Nonattainment Areas for Criteria Pollutants*.³

For this LHI Report, the Energy Commission interprets “permits” to connote discretionary and conditional use permits because they require a review of potential impacts to a community and the environment before issuance. Since ministerial-level permits, such as building permits, do not assess public health-related pollutants, the Energy Commission staff does not assess projects requiring only ministerial level permits in this report.

The cities where the projects will be located are in nonattainment zones for ozone, PM⁴ 2.5, and PM 10. Table 1 shows the EJ indicators for the six projects, that is, minority populations, low incomes, and highly sensitive groups based on age (individuals younger than 5 years of age and older than 65 years of age). Table 2 shows the demographics, indicating two cities are classified high-risk communities, according to the Environmental Justice Screening Method (EJSM).

1 California Air Resources Board, *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution*, 2010 (Sacramento, California).

2 <http://www.arb.ca.gov/planning/sip/sip.htm>.

3 <http://www.epa.gov/oaqps001/greenbk>.

4 “Particulate matter” is unburned fuel particles that form smoke or soot and stick to lung tissue when inhaled, and is a chief component of exhaust emissions from heavy-duty diesel engines.

CHAPTER 3:

Summary

If funded, the proposed projects would support new and existing planning efforts for ZEV readiness and will help to achieve both California state energy and climate change goals.

The anticipated impacts to the communities where the projects are to be located are positive in terms of air quality and anticipated greenhouse gas reductions as a result of ZEV adoption.

As indicated in Table 1, with further detail in Table 2, Monterey and South Lake Tahoe are considered high-risk communities, as identified in Appendix A. However, the anticipated health benefits from the proposed projects for the people in the communities, especially the disadvantaged communities, are highly likely, if not certain, to be positive. The Energy Commission expects that air quality will improve over time where the readiness plans are proposed along with the net benefit to California.

CHAPTER 4:

Acronyms

Air Quality Improvement Program (AQIP)

Air Resources Board (ARB)

Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP)

Assembly Bill (AB)

California Code of Regulations (CCR)

California Environmental Quality Act (CEQA)

Electric vehicle (EV)

Electric vehicle supply equipment (EVSE)

Environmental justice (EJ)

Environmental justice screening method (EJSM)

Grant funding opportunity (GFO)

Greenhouse gas (GHG)

Localized health impact (LHI)

Notice of proposed awards (NOPA)

Particulate matter (PM)

Plug-in electric vehicle (PEV)

State Implementation Plan (SIP)

Zero-emissions vehicle (ZEV)

Table 2: Environmental Justice (EJ) Indicators Compared With California
Yellow highlighted areas indicate numbers (percentages) that meet the definition for EJ indicators.

	Number of EJ Indicators by Category	Below Poverty Level (2014)	Black Persons (2010)	American Indian and/or Alaska Native (2010)	Asian and/or Pacific Islander (2010)	Persons of Hispanic or Latino Origin (2010)	Persons Under 5 Years of Age (2010)	Persons Over 65 Years of Age (2010)	Unemployment Rate (December 2016)
California		15.3%	6.2%	1.0%	13.0%	37.6%	6.8%	11.4%	5.2%
		>15.3%	>30%	>30%	>30%	>30%	>8.16%	>13.8%	>5.2%
Eureka	1	24.5%	1.9%	3.7%	4.2%	11.6%	6.1%	11.8%	4.4%
Monterey	2	9.1%	2.8%	0.5%	7.9%	13.7%	5.1%	15.5%	7.1%
San Diego	1	15.4%	6.7%	0.6%	15.9%	28.8%	6.2%	10.7%	3.9%
San Luis Obispo	1	33.4%	1.2%	0.6%	5.2%	14.7%	3.3%	12.0%	4.1%
Santa Rosa	0	12.6%	2.4%	1.7%	5.2%	28.6%	6.8%	13.5%	4.1%
South Lake Tahoe	2	18.5%	0.9%	1.1%	5.5%	31.1%	6.3%	9.8%	5.2%
Truckee	0	6.5%	0.4%	0.6%	1.5%	18.6%	6.6%	7.8%	4.3%

Sources: Unemployment information from the State of California, Employee Development Department Labor Market Information Div.:

<http://www.labormarketinfo.edd.ca.gov/data/unemployment-and-labor-force.html#Tool> and <http://www.labormarketinfo.edd.ca.gov/data/labor-force-and-unemployment-for-cities-and-census-areas.html>

U.S. Census Bureau, <http://www.census.gov/quickfacts/table/PST045215/0664000.06.00> and http://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

APPENDIX A:

Localized Health Impact Report Assessment Method

Based on the California Energy Commission's interpretation of the *California ARB AQIP Guidelines*, this LHI Report assesses the potential impacts to communities because of the projects proposed by the ARFVTP. This report is prepared under the *California ARB AQIP Guidelines, California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1 (CCR § 2343)*:

“(6) Localized health impacts must be considered when selecting projects for funding. The funding agency must consider environmental justice consistent with state law and complete the following:

(A) For each fiscal year, the funding agency must publish a staff report for review and comment by the public at least 30 calendar days prior to approval of projects. The report must analyze the aggregate locations of the funded projects, analyze the impacts in communities with the most significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, and identify agency outreach to community groups and other affected stakeholders.

(B) Projects must be selected and approved for funding in a publicly noticed meeting.”

This LHI Report is not intended to be a detailed environmental health impact analysis of proposed projects nor is it intended to substitute for the environmental review conducted during the California Environmental Quality Act (CEQA) review. This LHI Report includes staff's application of the Environmental Justice Screening Method (EJSM) to identify projects located in areas with social vulnerability indicators and the greatest exposure to air pollution and associated health risks⁵.

The EJSM was developed to identify low-income communities highly affected by air pollution for assessing the impacts of climate change regulations, specifically Assembly Bill 32 (Núñez, Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006. The EJSM integrates data on (i.) exposure to air pollution, (ii.) cancer risk, (iii.) ozone concentration, (iv.) frequency of high ozone days, (v.) race/ethnicity, (vi.) poverty level, (vii.) home ownership, (viii.) median household value, (ix.) educational attainment, and (x.) sensitive populations (populations under 5 years of age or over 65 years of age).

⁵ California Air Resources Board (ARB). *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making*, 2010. (Sacramento, California) Contract authors: Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., and James Sadd, Ph.D.

To determine high-risk communities, environmental justice (EJ) indicators for locations of ZEV readiness implementation are compared to data from the U.S. Census Bureau or other public agency. Staff identifies high-risk communities by using a two-part standard. For a community to be considered high-risk, for this assessment, it must meet both Parts 1 and 2 of this standard.

Part 1:

- Communities located in nonattainment air basins for ozone, PM 10 or PM 2.5

Part 2:

- Communities having more than one of the following EJ indicators: (1) minority, (2) poverty, (3) unemployment and (4) high percentage of population under 5 years of age and over 65 years of age. The EJ indicators follow:
 - A minority subset represents more than 30 percent of a given city's population.
 - A city's poverty level exceeds California's poverty level.
 - A city's unemployment rate exceeds California's unemployment rate.
 - The percentage of people living in that city are younger than 5 years of age or older than 65 years of age is 20 percent higher than the average percentage of persons under 5 years of age or over 65 years of age for all of California.